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A critical approach towards jade axes in southern Scandinavia

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Southern Scandinavian jade axes have been interpreted as items of prestigious exchange illustrating contact with the agrarian societies of Central Europe and reflecting agrarian ideas and ideology. They are therefore important in the discussion concerning the process of neolithisation in Northern Europe, but the difficulties in differentiating between Neolithic axes of alpine jade from axes imported from other continents has attracted some criticism. Furthermore, some of the jade axes found in Southern Scandinavian collections originate from private collectors, many of whom had contacts all over Europe. The axes lack therefore secure archaeological contexts, and may suggest that they have not been found in Scandinavian soil. The aim of this paper is to maintain a critical approach towards the question of the origin of the jade axes from Southern Scandinavia. However, the many imitations of jade axes produced in local raw materials clearly indicate the importance of this artefact group within the Mesolithic and Neolithic transition in Southern Scandinavia.

Keywords: jade axes; Southern Scandinavia; Caribbean islands; exchange systems; neolithisation; flint mines; pointed butted axes

Introduction

Until Klassen's (2004) paper, jade axes played an anonymous role in the discussion of the neolithisation process, but they are now seen as having a key role as items of prestigious exchange between agrarian societies in Central Europe. They can also be seen as reflecting the advent of agrarian ideas and ideology within hunter–gatherer and early farming societies in Southern Scandinavia during the Mesolithic and Neolithic transition. For many years, it was believed that Danish jade axes came from former European colonies and is one of the main reasons why some jade axes were found in ethnographic collections. At least one jade axe (ODIg 53, Klassen 2004, p. 88) was 'rediscovered' in the ethnographic collection of the Danish National Museum. It was believed to have originated from one of the Caribbean islands. Another axe from Lolland or Falster (Figure 1, LFS3527, Klassen 2004, p. 88) was believed to have originated in Asia.

The unknown quarries

The 'ethnographic' interpretation of these axes was due to jade quarries being unknown in Europe until Pierre and Anne-Marie Pétrequin found jadeite quarries in the Italian Alps and the northern Apennines (Pétrequin et al. 2012a). Based on petrographic studies it was concluded that the two above mentioned jade axes from Denmark (ODIg 53

and LFS3527) were made of jadeite procured at Mount Beigua. Another two axes from Denmark (OBM A258, Klassen 2004, p. 84 and private collection, Klassen 2004, p. 85) were made of jade from Mount Viso (Amico 2012, p. 439). The European jade project also suggested a typological classification of the jade axes, based on axes found in dated contexts. The dominant jade axe in Southern Scandinavia belongs to the Durrington type, which is almond shaped, with a pointed oval cross section.

A questionable context

According to Klassen's *Jade und Kupfer* book from 2004, a total of 13 jade axes are accepted as imported to Southern Scandinavia during the Stone Age. It was possible to determine a parish or region for 10 of the jade axes (Klassen 2004, p. 427: finds list 9. No. 1, 2, 5, 6, 7, 8, 10, 11, 12 and 13). The remaining three of the 13 jade axes are from private collections and are without any kind of information about their origin. They can be regarded as stray finds with an unsecure context. These three axes (Klassen 2004, p. 427: find list 9. No. 3, 4, 9) could have been exchanged and traded by antique dealers, who had contacts all over Europe, during the nineteenth and twentieth centuries. The context within Southern Scandinavia of these axes remains an open question.

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Figure 1. Original and the copy. Jade axe (LFS3527) with rusty plough marks found on either Lolland or Falster, together with a pointed butted axe of flint from the same region also with rusty plough marks. Photo: Lasse Sørensen and Jens Lauridsen.

The ethnographic problem

The main problem with all the jade axes is that visually it is difficult to distinguish between Neolithic axes of alpine jadeite and imported ethnographic axes from for instance, the Caribbean islands. Jade axes from the Caribbean islands display some of the same types, shapes and sizes as the Neolithic Alpine axes. The jade axes from the various Caribbean islands probably originate from Central American jadeite mines, thus indicating an organised long distance trade network similar to the one suggested for the Early Neolithic cultures in Europe (Harlow 1993, pp. 9ff, Harlow et al. 2006, pp. 306ff, Knippenberg 2006, Pétrequin et al. 2012a). It is therefore important to carry out petrographic studies on the jadeite from Central America in order to exclude a Caribbean origin of jade axes found in Europe. In the past, people brought antiquities to Europe from various colonies in the Caribbean including jade axes (Randsborg 2001). Denmark was no exception, the Virgin Islands being a Danish colony from 1672 until 1917.

Petrographic studies of Caribbean jade axes could be initiated within the ethnographic collection of The National Museum in Copenhagen (Toftgaard 2013). The museum has one of the most important collections of jade axes from the Virgin Islands, acquired from plantation owner Gustav Nordby, who lived on Saint Croix from 1903 to 1924 (Yde 1947, pp. 29ff). Archaeologist



Figure 2. Detailed photo of the rusty plough marks on the jade axe from Lolland or Falster. Photo: Lasse Sørensen and Jens Lauridsen.

Gudmund Hatt also brought some jade axes to The National Museum from Santo Domingo in connection with his expedition in 1923 (Hatt 1932).

A distinctive feature of the Caribbean axes is their great width, a characteristic rarely seen among the Alpine jade types. More importantly, none of the jade axes from the Caribbean islands investigated in this study show any rusty plough marks. The significance of this observation is due to these features being found in a few of the jade axes from Southern Scandinavia (Figure 2, Klassen 2004: finds list 9. Nr. 2, 10) and indicates that they have been lying in European soil during modern agricultural tilling. The fact that no jade axes have, as yet, been found in Southern Scandinavia in any archaeological context is problematic but also rather curious, as other exotic axes, such as the shoe-last-axes, have been found in connection with several archaeological excavations.

Imitations of jade axes during the early Neolithic

That jade axes reached Southern Scandinavia during the Early Neolithic (4000–3500 cal BC) is supported by the imitation of these axes (Durrington, Saint Michel, Tumiac and Chenoise types) in local raw materials such as flint or diabase (Figure 1). Several pointed butted flint and greenstone axes in Southern Scandinavia from Early Neolithic contexts were unused and some are more than 25-cm long. Seemingly, locally produced axes had a non-utilitarian purpose similar to the Alpine jade axes. Smaller imitations like the pointed butted axe of flint found in Lisbjerg Skole in pit A2247, together with Oxie ceramics, could also be interpreted as a copy of a jade axe of the Durrington type (Skousen 2008, p. 131). Furthermore, there are a few examples of pointed butted axes of diabase with an oval cross section and a perforation through the butt, which also

points towards a clear jade axe imitation. Some rare examples of copper flat axes like the ones from Pilegård and Vester Bedegadegård can also be interpreted as copies of jade axes (Klassen 2000). However, the imitation of jade axes into local materials does not necessarily represent a direct contact with any agrarian societies. It could simply represent a new hafting method, where the shape was linked to the shape of jade axes. It is therefore questionable whether jade axes, together with the local imitations, really represent the coming of an agrarian society. But, recent investigations into the radiocarbon dates of new evidence of agriculture in Southern Scandinavia document the introduction of pointed butted flint axes, domesticated animals and cereal cultivation during the period of 4000–3700 cal BC, thus arguing for the synchronous introduction of both jade axes and agrarian societies.

Flint mines – incoming farmers

The distribution pattern of the jade axes in Northern Europe could easily be interpreted as a classical down the line exchange pattern, where limited interaction between farmers and hunter-gatherers would have occurred. However, it is more likely that the distribution of the jade axes reflects an exchange pattern between the higher ranking societies in Europe, where the ideas and knowledge of agriculture could spread alongside these axes. This argument gains weight by investigating distribution of the few jade axes together with the local imitations in flint and other local materials, as they present a much denser distribution at inland habitation sites on easily worked arable soils. Generally, there seems to occur a change in the settlement pattern around 4000–3800 cal BC, where previously uninhabited inland areas in regions like the Fallbygden area, the inner part of Scania, Bornholm and the northern parts of Funen and Jutland are suddenly settled (Sørensen 2012). This settlement change could reflect pioneering farmers settling on easily worked, arable soils.

Maybe it was not only the ideas which spread alongside the jade axes, but also actual people who had produced, seen and owned jade axes? The few ^{14}C dates of charcoal found in the flint mines at Hov in Northern Jutland and Södra Sallerup in Scania suggest systematic flint mining activities from 4000 cal BC onwards. These Southern Scandinavian mines produced pointed butted flint axes and were partly contemporaneous with other flint mines in Central Europe and Britain (Sørensen and Karg 2012). Deep flint mines were a characteristic feature of the Central European Michelsberg Culture (4400–3500 cal BC) and it is possible that this technical knowhow was introduced in Southern Scandinavia by migrating farmers from Central Europe. These pioneering farmers could have brought with them a whole package of the agrarian technocomplex – including Alpine jade axes.

Concluding remarks

The many imitations of different types of jade axes produced in local raw materials clearly support the interpretation that the axes constitute an important artefact group within the Mesolithic and Neolithic transition in Southern Scandinavia. It is also clear that jade axes can be interpreted as a kind of mediator of agrarian ideology, which followed the expansion of agrarian societies from Central to Northern Europe. However, a petrographic study on the jadeite from Central America is necessary in order to exclude a Caribbean origin of some of the jade axes found in Europe.

The potential of finding jade axes within the museum collections in Southern Scandinavia is still possible. During a research stay at the Historical Museum in Stockholm, the author found a potential jade axe from Scania, but unfortunately without any context and from an unregistered antique collection. A greater surprise, also from the Historical Museum, was a thin adze of a non-local, green stone material



Figure 3. Adze of a non-local green stone material from Växjö in Småland. Stockholms Historiska Museum (SHM 12628). Photo: Lasse Sørensen and Jens Lauridsen.

from Våxjö in Småland (Figure 3) and of very similar material and shape to an adze of nephrite from Hallwillersee in Switzerland (Pétrequin *et al.* 2012b, p. 193). Petrographic studies are necessary to clarify the exact origin of the material used for the Våxjö adze. Generally, the number of Alpine jade axes in Southern Scandinavia are still very few and their context is still questionable. Hopefully, we will find ‘the smoking jade axe’ within a secure archaeological context in the future.

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